

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

Claim 1 (currently amended): A ceramic composite characterized in being composed of comprising:

a phase having as its principal component, at a content of 40 to 98 wt.%, a pure carbon allotrope of 3 μm or less average crystal-grain size as the principal component[[,]]; and

a ceramic phase (with the proviso that constituted by a ceramic that excludes pure carbon allotropes is excluded).

Claim 2 (currently amended): A ceramic composite characterized in being composed of comprising:

a phase having as its principal component, at a content of 40 to 98 wt.%, a pure carbon allotrope of 30 nm or less average crystal-grain size as the principal component[[,]]; and

a ceramic phase (with the proviso that constituted by a ceramic that excludes pure carbon allotropes is excluded).

Claim 3 (canceled)

Claim 4 (previously presented): A ceramic composite as set forth in claim 1, characterized in that the open porosity in the composite superficially after being polished is 1% or less.

Claim 5 (previously presented): A ceramic composite as set forth in claim 1, characterized in that the Vickers hardness of the composite in sintered form is 10 GPa or greater.

Claim 6 (currently amended): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of [[Al,]] Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 7 (currently amended): A method of manufacturing a ceramic composite as set forth in claim 1, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size as the principal component, and a ceramic phase that excludes pure carbon allotropes, characterized in that a powder blend of a ceramic powder (with the proviso that excludes pure carbon allotropes is excluded) and in which the average crystal-grain size is 3 μm or less [[and]] is molded together with a carbon powder is molded, and the obtained molded form is sintered within a non-oxidizing atmosphere at a sintering temperature of 800 to 1500°C and a sintering pressure of 200 MPa or more.

Claim 8 (currently amended): A method of manufacturing a ceramic composite as set forth in claim 7, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size as the principal component, and a ceramic phase that excludes pure carbon allotropes, characterized in that the ceramic powder is at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides,

composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 9 (currently amended): A method of manufacturing a ceramic composite as set forth in claim 8, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size as the principal component, and a ceramic phase that excludes pure carbon allotropes, characterized in that the powder blend further includes at least one metal selected from Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 10 (currently amended): A method of manufacturing a ceramic composite as set forth in claim 2, composed of a phase having as its principal component a pure carbon allotrope of 30 nm or less average crystal-grain size as the principal component, and a ceramic phase that excludes pure carbon allotropes, characterized in that a powder blend of a ceramic powder (with the proviso that excludes pure carbon allotropes is excluded) and in which the average crystal-grain size is 30 nm or less and a carbon powder is molded, and the obtained molded form is sintered within a non-oxidizing atmosphere at a sintering temperature of 800 to 1500°C and a sintering pressure of 200 MPa or more.

Claim 11 (currently amended): A method of manufacturing a ceramic composite as set forth in claim 10, composed of a phase having as its principal component a pure carbon allotrope of 30 nm or less average crystal-grain size as the principal component, and a ceramic phase that excludes pure carbon allotropes, characterized in that the ceramic powder is one or more selected from the group made up of nitrides and carbides, as well as oxides, composite nitrides, composite

carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of at least one metal selected from Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 12 (previously presented): A method of manufacturing a ceramic composite as set forth in claim 11, composed of a phase having carbon of 30 nm or less average crystal-grain size as the principal component, and a ceramic phase, characterized in that the powder blend further includes at least one metal selected from Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 13 (canceled)

Claim 14 (previously presented): A ceramic composite as set forth in claim 2, characterized in that the open porosity in the composite superficially after being polished is 1% or less.

Claim 15 (previously presented): A ceramic composite as set forth in claim 2, characterized in that the Vickers hardness of the composite in sintered form is 10 GPa or greater.

Claim 16 (previously presented): A ceramic composite as set forth in claim 2, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 17 (new): A ceramic composite as set forth in claim 1, characterized in that said carbon is one selected from graphite, diamond, amorphous carbon, carbon black and fullerenes.

Claim 18 (new): A ceramic composite as set forth in claim 1, characterized in that said carbon is one selected from graphite, amorphous carbon, carbon black and fullerenes.

Claim 19 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of Si, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 20 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of Si, Ti, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 21 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of Si, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 22 (new): A ceramic composite as set forth in claim 18, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of Si, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 23 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, composite nitrides, composite carbides, and carbonitrides of Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 24 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, composite nitrides, composite carbides, and carbonitrides of Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 25 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, composite nitrides, composite carbides, and carbonitrides of Al, Si, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 26 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, composite nitrides, composite carbides, and carbonitrides of Al, Si, Ti, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 27 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase is constituted from at least one selected from the group made up of nitrides, carbides, composite nitrides, composite carbides, and carbonitrides of Si, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 28 (new): A ceramic composite as set forth in claim 18, characterized in that the ceramic phase is constituted from at least one selected from the group

made up of nitrides, carbides, composite nitrides, composite carbides, and carbonitrides of Si, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 29 (new): A ceramic composite as set forth in claim 28, characterized in that the open porosity in the composite superficially after being polished is 1% or less.

Claim 30 (new): A ceramic composite as set forth in claim 1, characterized in that the Vickers hardness of the composite in sintered form is 10 GPa or greater.

Claim 31 (new): A method of manufacturing a ceramic composite as set forth in claim 28, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size , and a ceramic phase that excludes pure carbon allotropes, characterized in that a powder blend of a ceramic powder that excludes pure carbon allotropes and in which the average crystal-grain size is 3 μm or less is molded together with a carbon powder, and the obtained molded form is sintered within a non-oxidizing atmosphere at a sintering temperature of 800 to 1500°C and a sintering pressure of 200 MPa or more.

Claim 32 (new): A method of manufacturing a ceramic composite as set forth in claim 31, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size, and a ceramic phase that excludes pure carbon allotropes, characterized in that the powder blend further includes at least one metal selected from Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W.

Claim 33 (new): A method of manufacturing a ceramic composite as set forth in claim 1, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size , and a ceramic phase that

excludes pure carbon allotropes, characterized in that a powder blend of a ceramic powder that excludes pure carbon allotropes and in which the average crystal-grain size is 3 μm or less is molded together with a carbon powder, and the obtained molded form is sintered within a non-oxidizing atmosphere at a sintering temperature of 800 to 1500°C and a sintering pressure of 1000 MPa or more.

Claim 34 (new): A method of manufacturing a ceramic composite as set forth in claim 28, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size , and a ceramic phase that excludes pure carbon allotropes, characterized in that a powder blend of a ceramic powder that excludes pure carbon allotropes and in which the average crystal-grain size is 3 μm or less is molded together with a carbon powder, and the obtained molded form is sintered within a non-oxidizing atmosphere at a sintering temperature of 800 to 1500°C and a sintering pressure of 1000 MPa or more.

Claim 35 (new): A method of manufacturing a ceramic composite as set forth in claim 1, composed of a phase having as its principal component a pure carbon allotrope of 3 μm or less average crystal-grain size , and a ceramic phase that excludes pure carbon allotropes, characterized in that a powder blend of a ceramic powder that excludes pure carbon allotropes and in which the average crystal-grain size is 3 μm or less is molded together with a carbon powder, and the obtained molded form is sintered within a non-oxidizing atmosphere at a sintering temperature of 800 to 1500°C and a sintering pressure of 1000 MPa or more.

Claim 36 (new): A method of manufacturing a ceramic composite as set forth in claim 28, composed of a phase having as its principal component a pure carbon

allotrope of 3 μm or less average crystal-grain size , and a ceramic phase that excludes pure carbon allotropes, characterized in that a powder blend of a ceramic powder that excludes pure carbon allotropes and in which the average crystal-grain size is 3 μm or less is molded together with a carbon powder, and the obtained molded form is sintered within a non-oxidizing atmosphere at a sintering temperature of 800 to 1500°C and a sintering pressure of 1000 MPa or more.

Claim 37 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase consists of silicon carbide.

Claim 38 (new): A ceramic composite as set forth in claim 37, characterized in that the pure carbon allotrope consists of graphite.

Claim 39 (new): A ceramic composite as set forth in claim 37, characterized in that the pure carbon allotrope consists of diamond.

Claim 40 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase consists of silicon nitride.

Claim 41 (new): A ceramic composite as set forth in claim 40, characterized in that the pure carbon allotrope consists of graphite.

Claim 42 (new): A ceramic composite as set forth in claim 1, characterized in that the ceramic phase consists of tantalum carbide.